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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/870,457	06/01/2001	Michael I. Catherwood	068354.1444	8463

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EXAMINER

LI, AIMEE J

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/870,457	Applicant(s) CATHERWOOD ET AL.	
	Examiner Aimee J Li	Art Unit 2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. New claims 5-20 have been added and considered. Claims 1-4 have been cancelled as per Applicant's request

Papers Submitted

2. It is hereby acknowledged that the following papers have been received and placed of record in the file: Amendment as filed 19 October 2004 and Extension of Time for 3 Months as filed 19 October 2004.

Specification

3. The substitute specification filed 19 October 2004 has not been entered because it does not conform to 37 CFR 1.125(b) and (c) because: the amendment does not have a statement as to a lack of new matter in the substitute specification.

Claim Objections

4. Claims 6-20 objected to because of the following informalities: The claims use acronyms, which hold no meaning in plain English. Please use the full names of the instructions claimed. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 6, 10, 11, 14, and 16-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled

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in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 6 and 16-20 contain the acronym "MP" which is not described in the specification. Claims 10 and 16-20 contain the acronym "BRSTSF" which is not described in the specification. Claims 11 and 16-20 contain the acronym "SUBBFW" which is not described in the specification. Claims 14 and 16-20 contain the acronyms "INCF2" and "DECF2" which are not described in the specification.

7. Claims 6, 10, 11, 14, and 16-20 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claims 6 and 16-20 contain the acronym "MP" which is not described in the specification. Claims 10 and 16-20 contain the acronym "BRSTSF" which is not described in the specification. Claims 11 and 16-20 contain the acronym "SUBBFW" which is not described in the specification. Claims 14 and 16-20 contain the acronyms "INCF2" and "DECF2" which are not described in the specification.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claim 5 is rejected under 35 U.S.C. 102(e) as being taught by Kim et al., U.S. Patent Number 6,564,238 (herein referred to as Kim). Kim has taught an apparatus comprising:

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- a. A processor unit capable of executing one or more first instructions (Kim column 1, lines 26-39; column 3, lines 15-39; and column 5, lines 13-23);
- b. A digital signal processor operative with the central processing unit (Kim column 5, lines 13-41; column 6, lines 44-47; column 7, lines 1-18; and Figure 1), the digital signal processor capable of executing one or more second instructions (Kim column 1, lines 26-39; column 3, lines 15-39; and column 5, lines 13-23);
- c. An instruction set having first instructions and second instructions (Kim column 5, lines 13-23); and
- d. The central processing unit and the digital signal processor constructed and arranged to form a programmer model having the digital signal processor having two or more working registers, program memory storing one or more of the instructions in the instruction set, a program counter, and at least one execution unit capable of executing one or more of the instructions in the instruction set (Kim column 1, lines 26-39; column 3, lines 15-39; column 5, lines 13-41; column 6, lines 44-47; column 7, lines 1-18; Figure 1; and Figure 3). In regards to Kim, the program counter is inherent to the device, since Kim has taught that conventional processor components are included (Kim column 6, lines 44-47) and a program counter is a conventional component. Please see the definition from FOLDOC.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al., U.S. Patent Number 6,564,238 (herein referred to as Kim), as applied to claim 5 above, in view of SPARC International, Inc.'s The SPARC Architecture Manual ©1994-2000 (herein referred to as SPARC). Kim has not explicitly taught

- a. Wherein the instruction set includes one or more instructions selected from the group consisting of MAC, MSC, MP, MPYN and ED (Applicant's claim 6).
- b. Wherein the instruction set includes one or more instructions selected from the group consisting of NOP, CALLW, RCALLW, GOTOW, BRAW, CALL, DO, DOW, REPEAT, REPEATW, BOA, BOB, BSA, and BSB (Applicant's claim 7).
- c. Wherein the instruction set includes one or more instructions selected from the group consisting of SUBR, SUBRLS, MOVL, BOV, BC, BZ, BN, BLE, BLT, BLEU, BRA, BNOV, BNC, BNZ, BNN, BGT, BGE, and BGTU (Applicant's claim 8).
- d. Wherein the instruction set includes one or more instructions selected from the group consisting of ADD, ADDLS, ADDC, ADDCLS, SUB, SUBLS, SUBB, SUBBLS, AND, ANDLS, XOR, XORLS, IOR, IORLS, and MOV (Applicant's claim 9).
- e. Wherein the instruction set includes one or more instructions selected from the group consisting of BTST, BTSTS, BTSTW, BTSS, BTSC, BSETF, BCLRF, BTGF, BTSTF, BRSTSF, BSW, BTFSS and BTFSC (Applicant's claim 10).

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- f. Wherein the instruction set includes one or more instructions selected from the group consisting of ADDLW, ADDCLW, SUBLW, SUBBLW, ANDLW, XORLW, IORLW, ADDWF, ADDCWF, SUBWF, SUBBWF, ANDWF, XORWF, IORWF, MOVWF, MULU, MULUS, MULSU, MULS, TBLRDL, TBLRDH, TBLWTL, TBLWTH, MULWF, SUBFW, SUBBFW and MOVF (Applicant's claim 11).
- g. Wherein the instruction set includes one or more instructions selected from the group consisting of MOVSAC, SFTAC, SFTACK, ADDAC, LAC, ADDAB, NEGAB, SUBAB, SAC and SRAC (Applicant's claim 12).
- h. Wherein the instruction set includes one or more instructions selected from the group consisting of SL, LSR, ASR, RLNC, RLC, RRNC, RRC, SLF, LSRF, ASRF, RLNCF, RLCF, RRNCF, RRCF, SLW, and ASRW (Applicant's claim 13).
- i. Wherein the instruction set includes one or more instructions selected from the group consisting of CP(LS), CPB(LS), CPFO, CPF, CPFB, INC, INC2, DEC, DEC2, NEG, COM, INCF, INCF2, DECF, DECF2, NEGF, COMF, CLRF and SETF (Applicant's claim 14).
- j. Wherein the instruction set includes one or more instructions selected from the group consisting of PUSH, POP, LNK, ULNK, DISI, DAW, EXCH, SWAP, CLRWDT, RESET, ITCH, SCRATCH and NOPR (Applicant's claim 15).
- k. Wherein the instruction set includes one (Applicant's claim 16), two (Applicant's claim 17), three (Applicant's claim 18), four (Applicant's claim 19), five

(Applicant's claim 20) or more instructions selected from the group consisting of ADD, ADDAB, ADDAC, ADDC, ADDCLS, ADDCLW, ADDCWF, ADDLS, ADDLW, ADDWF, AND, ANDLS, ANDLW, ANDWF, ASR, ASRF, ASRW, BC, BCLRF, BGE, BGT, BGTU, BLE, BLEU, BLT, BN, BNC, BNN, BNOV, BNZ, BOA, BOB, BOV, BRA, BRAW, BRSTSF, BSA, BSB, BSETF, BSW, BTFSC, BTFSS, BTGF, BTSC, BTSS, BTST, BTSTF, BTSTS, BTSTW, BZ, CALL, CALLW, CLRF, CLRWDT, COM, COMF, CP(LS), CPB(LS), CPF, CPFO, CPFB, DA W, DEC, DEC2, DECF, DECF2, DISI, DO, DOW, ED, EXCH, GOTOW, INC, INC2, INCF, INCF2, IOR, IORLS, IORLW, IORWF, ITCH, LAC, LNK, LSR, LSRF, MAC, MOV, MOVF, MOVL, MOVSAC, MOVWF, MP, MPYN, MSC, MULS, MULSU, MULU, MULUS, MULWF, NEG, NEGAB, NEGF, NOP, NOPR, POP, PUSH, RCALLW, REPEAT, REPEATW, RESET, RLC, RLCF, RLNC, RLNCF, RRC, RRCF, RRNC, RRNCF, SAC, SCRATCH, SETF, SFTAC, SFTACK, SL, SLF, SLW, SRAC, SUB, SUBAB, SUBB, SUBBFW, SUBBLS, SUBBLW, SUBB~, SUBFW, SUBLS, SUBLW, SUBR, SUBRLS, SUBWF, SWAP, TBLRDH, TBLRDL, TBLWTH, TBLWTL, ULNK, XOR, XORLS, XORLW and XORWF.

12. However, Kim has taught that the host processor and DSP perform specific functions (Kim column 5, lines 14-23) and may have a RISC system architecture (Kim column 5, lines 37-41). SPARC has taught a RISC system architecture (SPARC page xiv, section 0.3) with
 - a. Multiply instructions (Applicant's claims 6 and 16-20) (SPARC pages 200-203);
 - b. A NOP instruction (Applicant's claims 7 and 16-20) (SPARC page 204);

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- c. Branch instructions (Applicant's claims 8 and 16-20) (SPARC pages 146-147);
 - d. Add instructions (Applicant's claims 9, 11, and 16-20) (SPARC page 137);
 - e. Bit toggle instructions (Applicant's claims 10 and 16-20) (SPARC page 299);
 - f. Shift instructions that designate which register's data, including the accumulator register's data, to shift (Applicant's claims 12, 13, and 16-20) (SPARC pages 221-222);
 - g. Increment instructions (Applicant's claims 14 and 16-20) (SPARC page 299); and
 - h. SWAP instructions (Applicant's claims 15 and 16-20) (SPARC pages 234-236).
13. A person of ordinary skill in the art at the time the invention was made would have recognized, and as recognized by Kim and SPARC, that the RISC architecture reduces power consumption (Kim column 5, lines 37-41) and improves system performance (SPARC page xiv, section 0.3). Therefore, a person of ordinary skill in the art at the time the invention was made would incorporate the RISC architecture of SPARC in the device of Kim to reduce power consumption and improve system performance.

Response to Arguments

14. Applicant's arguments with respect to claims 5-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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16. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aimee J Li whose telephone number is (571) 272-4169. The examiner can normally be reached on M-T 7:30am-5:00pm.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

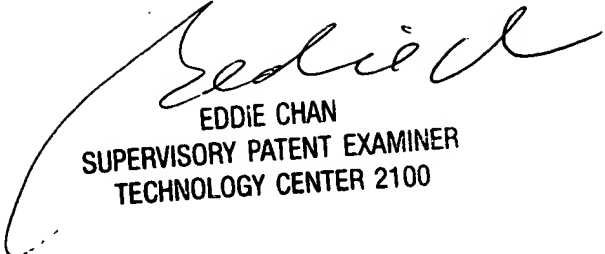
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Aimee J. Li
18 January 2005



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